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Are We Outgrowing Our Highways?

A radio discussion over WGN and the Mutual Broadcasting System

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Are We Outgrowing Our Highways?

MR. McBURNEY: What kind of a problem do we face in our highways? What is the condition of the nation's highway system, Farin?

MR. FARIN: Here are the facts relating to the approximately 350,000 miles of principal highways which are under the jurisdiction of the state highway departments. The rate of rehabilitation of these highways has for the past ten years averaged far less than the annual rate required to keep them even in reasonably adequate condition. The accumulated deficiency is now well over 75,000 miles and is increasing by from five to six thousand miles a year. This analysis, which is based on past trends and experience, doesn't take into account obsolescence brought about by the unprecedented increase in traffic, heavier loads, higher speeds and so forth.

Present Deficiencies

MR. BARKER: Mr. Farin, I believe the figures you are using are the figures representing the present deficiencies. It seems to me that the latest report from the American Association of State Highway Officials which was dated December 31, 1951, shows that about 424,000 miles of our primary and secondary federal aid system would be deficient by 1960 and the total amount of money needed to recondition those roads was thirty-two billion dollars.

MR. FARIN: That's true, Barker, but those figures include all of the roads in which the federal government is interested — secondary roads, roads in cities and so forth, while I spoke only of the primary system.

MR. McBURNEY: Do you have a word on this, Barton?

MR. BARTON: My point is this: The data you cite are concentrated primarily on the major system of rural roads; we must not forget the deficiencies in traffic capacity that are

developing in all the city streets or so many of the city streets.

MR. KENNEDY: All three of these men have pointed out, Dean McBurney, that as a result of the increasing number of motor vehicles, the increase in the speeds that are used, the increase in loading, that many miles of our highways have had a degree of obsolescence attached to them in the last two decades. Now, I would like to say that there are two types of obsolescence in our existing highway system. One of these is their failure to provide for the free movement of vehicles in the manner in which the vehicle is accustomed. That is called the geometric design of the road. It calls for increased number of lanes, widened lanes, better intersection design, better traffic engineering devices and things of that kind. There is another phase to the design of the road and that is the structural character of the design. By and large, although our roads are too narrow and have obsolete characteristics, they have stood up surprisingly well, as I am sure Barker will agree, even though they are carrying far greater loads than was ever expected of them in their original design.

Illinois Road Conditions

MR. BARKER: That's right, Mr. Kennedy. Let me describe the gloomy picture of Illinois. We find that about 6,300 miles of our rural primary highways will need to be reconstructed during the next decade. That will cost about a billion dollars. We find, too, that the structural condition of our pavements is very poor, that they are not adequate to carry modern traffic. The heavy period of road construction done in Illinois occurred during the 1920's. We find then that a large percentage of our primary pavements are about twenty-five or thirty years old. The average life of a rigid, high-type pavement is estimated to be about twenty-six or

twenty-seven years. We find that about a thousand miles of urban connections to those primary routes are also in such condition that they should be rehabilitated immediately.

MR. MCBURNEY: I haven't heard anyone talk about the rural roads, the farm-to-market roads. Is that an area of some importance? How about the farmers and other people who live on rural roads?

MR. FARIN: Actually, McBurney, the situation is critical with respect to traffic capacity and congestion in the cities, but from the viewpoint of all-around-the-year use, daily use, the secondary and farm-to-market roads are also critically deficient. We must not forget the primary highway system from the standpoint of speed demand with respect to safe travel, but these rural primary highways are also critically deficient in the same respect.

Accident Rate

MR. MCBURNEY: You mentioned safe travel. I have been under the impression that the accident rate on the highways was decreasing in general. Is that a fact?

MR. BARTON: It's true that the accident rate during the past fifteen years has gone down when you consider the number of vehicles that are being operated on the roads. On a basis of vehicle miles, there are approximately half as many traffic fatalities now as was true, oh — fifteen years ago, but a bad situation is developing at the present time. Accidents after the war even with increased traffic were held down well. Starting about a year or a year and a half ago, this trend was reversed and we are now going into a period of steadily increasing accidents. If we want any figure on total severity, we can just cite this well-used figure of over a million persons killed, which totals more than all persons killed in our wars.

MR. KENNEDY: Isn't this staggering death rate of nearly forty thousand people a year an evidence of the fact that our highway system needs serious attention at a very early date?

MR. MCBURNEY: I have been wondering, as you men were talking here, what you would say had this discussion been held twenty years ago on this broadcast. Wouldn't you be saying just about the same thing you are saying now? Don't we always need bigger and better highways?

MR. BARKER: I don't believe so, McBurney. In 1920 there were 570,000 motor vehicles registered in Illinois. In 1930 there were 1,638,000, and in 1950 there were 2,650,000. Speeds of these vehicles have increased tremendously; so have the sizes and weights of the commercial vehicles. The structural condition of our roads has gotten worse year by year. All of these things have contributed to the increase in accidents.

Traffic Increase

MR. FARIN: That picture is generally true nationally. Actually, traffic has increased in the past ten years over 50 per cent throughout the nation and trucks and combinations carried approximately 106 per cent more ton mileage of freight in 1950 than they did in 1941.

MR. BARTON: Isn't there a reason for this change? Haven't we undergone a complete change in the form of our cities and in the nature of our life? Twenty or twenty-five years ago the automobile was not so essential as it is today. Look what has happened to residential development since the war. Wherever people have an opportunity, their new housing develops outside the city, being located in suburbs or semi-rural areas. Dependence is immediately placed on the automobile for transportation. Look what is happening to industry and the tremendous number of industries that are expanding out of the concentrated centers of cities, many of them being located where there is no other form of transportation but the automobile and the truck. It's a change in our life really that has created a new problem.

MR. MCBURNEY: And what is the dimension of that problem in terms of dollars and cents? How much of a highway deficit do we face in good,

hard cash? Does anyone have that?

MR. FARIN: Mr. Barker has already mentioned a figure of a little over thirty-one billion dollars that was furnished to the Congress, I believe.

MR. McBURNEY: Are you saying then that if we had thirty-one billion dollars, which is an astronomical figure to a school teacher, at least — if we had thirty-one billion dollars, would that put things back in shape?

'Primary Roads Only'

MR. BARKER: Not at all, McBurney, because this estimate of thirty-two billion dollars does not include an estimate of money needed to rehabilitate a large mileage of city streets, a lot of township and local roads. This figure represents the amount of money needed to improve and rehabilitate the primary system, the important arterial streets in cities and the roads in which the federal government generally has an interest — the federal aid assistance. . . .

MR. McBURNEY: Excuse me. Are we getting that kind of money now or anything remotely approximating it?

MR. BARKER: No, we are not. We are falling behind year by year.

MR. KENNEDY: The taxes on the motor vehicle user today are relatively large, but we still have a problem of building these facilities that are needed to keep pace with the growing volume of traffic. It seems to me to answer your question of how we are going to do it, first of all the public must understand something of the nature of the problem and the magnitude of it. After that the problem goes to the legislatures of the several states as well as the Congress to make provision for the programs of road improvement that are under their particular jurisdiction.

MR. McBURNEY: Is this problem that you men have been describing — I think rather dramatically here — largely a result of the lag in construction during the war?

MR. BARKER: I believe not. The lag in road construction during the war

is certainly an important factor in our present highway predicament. Since the war, however, we have not been able to maintain a rate of modernization and improvement of the roads which would even keep pace with the increasing obsolescence and physical failure of our surfaces. Let's put it this way then: If construction had not been interrupted by the war, we might not now be as far behind in replacement as we are.

MR. McBURNEY: Are the appropriations that we are getting now for highway construction commensurate with the kind of appropriations we had in the twenties when — if I follow you — we did have a lot of road building?

Expanded Programs

MR. KENNEDY: In that connection, Congress took a good, deep look at the highway problem during the war itself in preparation for a postwar program, and as a result of that study, the Federal Aid Highway Act of 1944 contained an authorization of approximately double what it had been for the past ten or fifteen years. Likewise, many of the states have studied their highway situation and have made provision for expanded programs.

MR. McBURNEY: You refer to doubling the federal appropriations and increases in the states. That means more dollars, but does it mean more roads in view of the inflated condition of the dollar?

MR. FARIN: Actually, the highway dollar now buys only about half as much as it did back in the early thirties. There is one bright spot, of course, in this picture and it should be credited, I think, to the highway departments who have consistently lowered the cost to the public in keeping roads in operation as measured by the cost per vehicle mile.

MR. McBURNEY: Now let's see how we can take hold of this problem. I am going to ask some questions here that I suspect have some political implications. How are we going to crack down on this problem? As a layman who uses the highways and is enorm-

ously interested in them — therefore, Mr. Kennedy, an authority on the subject [Laughter] — let me ask you some questions that people ask me. When I drive the highways, I encounter these big trucks and busses sailing along. Why don't we tax those boys more?

Bus Transportation

MR. BARTON: I would like to say something about the bus. If increased taxes are placed on mass transportation carriers such as the average bus transit system, it may enhance our problem rather than helping it, by increasing cost of bus operation and thus driving more people into the use of their private automobiles.

MR. McBURNEY: You are talking about busses carrying passengers.

MR. BARTON: I am, yes.

MR. McBURNEY: And your thought is it might be wise to have more people ride the public transportation systems.

MR. BARTON: Yes. There is a figure very commonly used which I think is right. If you consider the amount of street area occupied by one or one and a half persons riding in the average automobile and the street area occupied by fifty or sixty persons riding in a bus, the bus rider requires maybe one-twenty-fifth as much street facility as does the person riding in the private automobile. There is also the other factor, the person riding in his private automobile can't accomplish the purpose of his trip until he has parked. The person in the mass transportation vehicle doesn't require parking space.

MR. KENNEDY: Barton, you do not, however, I assume, want the private passenger car owner per se through his special taxes to pay for those facilities for the movement of the bus. It's a more general obligation, is it not?

MR. BARTON: The mass transportation system is a required feature of the city and its costs if borne by the community are not to be assessed against the man using the private automobile.

MR. KENNEDY: Another point you raised, Dean McBurney, about the truck. I hope that we won't at all approach this problem from a standpoint of cracking down on any one.

MR. McBURNEY: I didn't mean to be inflammatory. It's a question that is often raised certainly.

MR. KENNEDY: The approach to the problem is through engineering analysis and engineering study and a careful determination of what the minimum needs are and then a proper and equitable allocation of the cost to the beneficiaries. That's what we all want, and I am sure that each group is willing to accept its fair share of the costs involved.

MR. McBURNEY: Having said that, would you estimate that the fair share of the trucks probably ought to be a little more than it is now?

MR. KENNEDY: That would be altogether too dangerous an estimate. That can't be approached on the basis of conversation over this table this morning. It has to be approached on the basis of exhaustive, careful, long, time-consuming study.

'Increase Taxes'

MR. McBURNEY: The general trend is to increase those taxes a bit. Is that right?

MR. BARKER: Yes, it is. In Illinois, for example, the last session of our General Assembly did increase the schedule of registration fees for the commercial vehicles quite considerably.

MR. McBURNEY: Is that going on, Barker, pretty much over the country, would you think?

MR. BARKER: The trend seems to be all over the country to increase both the gasoline tax and the registration fees. That's just because the states have all seen the emergency with which they are confronted, and they realize that we must provide the roads and streets the traffic is demanding. The only way those facilities can be provided is through an increase in revenue which naturally would come from the users of those facilities.

MR. FARIN: Here is an interesting fact in connection with this matter of cost of operating or of maintaining the way for the use of these trucks. Actually, the railroads in 1951 spent almost three and a half billion dollars for maintenance of way and equipment while 43 per cent of this was spent on maintenance of way. Now, the average highway user today through his taxes is not beginning to spend anywhere near that amount for highways.

MR. KENNEDY: That's true particularly of the private passenger car owner, I believe, is it not, Mr. Farin? He pays a very small amount of his highway transportation dollar for the highway facility as compared with the ownership and the operation, the maintenance and the replacement of his motor vehicle.

MR. McBURNEY: And does the amount that he actually pays — now I am thinking of the gas tax and the license fee — does that actually go back to the highways, Barker?

Dispersion of Funds

MR. BARKER: Most of it, yes. There are some diversions, of course, in a great many states. We are fortunate in Illinois that there have been no outright diversions of our road revenues except for purposes such as support of common schools and unemployment relief during the depression. Recently there have been no diversions of most user revenues in Illinois. That isn't true, I believe, in all states.

MR. FARIN: No, it isn't. You are correct, Mr. Barker. The national picture is that there are about twenty-seven states who have diverted a total of a little over two hundred million dollars in the past year. Now, there are twenty-one states, however, that do have constitutional amendments against this diversion of motor vehicle user taxes.

MR. BARTON: When you talk about diversion, I believe you are talking about the very open diversion to purposes such as schools or relief or something of that sort. Isn't there perhaps a more insidious, a hidden

type of diversion, in which highway funds paid by the highway users are being spent on a type of use which is not of direct benefit to that highway user? For example, I think of one instance where the maintenance of the parkways and the trees alongside the street are paid out of user taxes. I think that's just one example of the hidden dispersion.

MR. KENNEDY: I am glad you named it because the name "dispersion" is what is generally applied to it, Barton. It is, of course, a very dangerous thing because it's a hidden waste of the motor vehicle tax money. It amounts to a much larger volume of waste and taking away of these special taxes than does the mere diversion of moneys which is outright and everyone can see.

'Gas Tax Insufficient'

MR. McBURNEY: But you can't support, can you, a city-street system with gas taxes, or these farm-to-market roads with gas taxes?

MR. BARKER: No, you cannot. It just isn't possible to collect enough money from gasoline taxes to provide for the improvement and continued maintenance of all city streets and all local roads. That's too much to expect. Property must carry a part of the burden.

MR. BARTON: Theoretically you could increase the gas tax and continue to increase it until you produced all the money you required, but you might in that process be stifling an important form of transportation. Don't you have to analyze each street and each highway system to find out who is the primary beneficiary of that road or street and let the man who benefits pay for it?

MR. KENNEDY: I think we all agree with that. The working out of that problem depends also on a study of the relative traffic problem on various roads. We know that a very local road or local street may carry only a few vehicles per day. In increasing numbers the highway traffic volume concentrates on a more and more limited mileage of roads until we

come to a situation where we have some roads carrying as high as thirty or forty thousand vehicles a day.

MR. McBURNEY: How do you decide, Barker, which road gets the money? Now, for me, the road that is most important, of course, is the one that runs in front of my house.

Motor User Revenues

MR. BARKER: Certainly it is. The most important road to me probably is the road that runs in front of my house, too. However, we must realize that again we just can't support improvement of all roads and streets from motor user revenues. I don't know just where you live, Dean McBurney, but probably you live on a street on which traffic is restricted pretty generally to residential traffic and the service vehicles that bring supplies such as milk to your door. The street then, if that is true, would benefit principally, you and the other people who live along it. I don't believe it would be fair if you would expect the motor user in general to support the improvement and maintenance of that street entirely. Certainly a good bit of the benefit accrues to you directly. If your house is on fire and you call the fire department, that's of benefit to you individually and directly, and I think that always we will have to expect property taxes to support a large amount of the cost of these local road and street improvements.

MR. McBURNEY: What do you gentlemen think of these toll roads that seem to be springing up all over the country? Do they make sense? Go ahead, Farin. What do you think of that?

MR. KENNEDY: Do you mind, Farin, if I say a word or two about that? The financing of roads has grown to such an important proportion that we are not able to pay as we go out of our motor vehicle revenues for all of these modern facilities. The development of the toll road idea throughout the country is a manifestation of that fact. It requires a large amount of money laid out in a single program to develop these facilities of very high

capacity. Therefore, we have seen the toll road develop. It ought to be pointed out, however, that when a motorist pays through tolls for a road, he is paying two or three times as much per gallon as he does when he pays his ordinary state gasoline tax.

MR. McBURNEY: Why would that be?

Toll Roads

MR. KENNEDY: For example, on the Pennsylvania Turnpike the rate of one cent per mile per passenger vehicle is the equivalent of a fourteen-cent per mile gasoline tax.

MR. McBURNEY: Of course, it does put it onto the fellow that is using it.

MR. KENNEDY: Yes, but it is at a prohibitive rate.

MR. McBURNEY: Do we have any toll roads in Illinois?

MR. BARKER: We have none in Illinois. However, there is a statutory authorization under which toll roads could be built. That statute has been on the books, I believe, about eight years. No suitable location has been found in this state where this type of road could be built and could be self-liquidating.

MR. McBURNEY: I have the impression — am I right? — that these toll roads are largely limited to the East?

MR. FARIN: I would say that is generally true, Dean McBurney. The bulk of the toll roads now under construction or in use are in the Eastern states. There are some exceptions. Oklahoma is now constructing a toll road. But let's not forget, a toll road to be successful must be in a sense a monopolistic necessity. That's the reason why the general program of toll bridges is usually successful. People must cross the stream, and they must use the bridge. Therefore, it works out that it will pay for itself.

MR. McBURNEY: We have been pecking away at this problem for twenty or twenty-five minutes here. What kind of an over-all program do you men recommend? How are we going to get at this problem? It seems to be a tremendous one.

MR. KENNEDY: It comes down to two things, it seems to me, Dean McBurney. In the first place, we have proven that the problem is one of large proportions. There are fifty million vehicles on the road. They are consuming a half trillion vehicle miles of travel per year. First of all, the public must be made aware of the need in the road improvement field. That is going to be done in some part, I am sure, through a program that is now being sponsored by many of the groups that are interested in this problem, the PAR program, Project Adequate Roads, about which you will be hearing a great deal more in the immediate future. Then after the public is aware of these needs, it seems to me that we are going to have to concentrate more and more of our attention on less and less miles of road, that national system of interstate highways that Farin talked about.

Interstate Highways

MR. FARIN: You have raised a good point there. Actually the national system of interstate highways comprising about forty thousand miles or one per cent of the total road and street mileage in the United States carries approximately 20 per cent of the traffic. This simply means that if we improve that system initially, we will be benefiting the greatest amount of traffic proportionately.

MR. BARTON: We seem to be concentrating our attention on the rural problems. In the cities I don't think there is any need to create the awareness of the problem — in the average city at least.

MR. McBURNEY: The traffic does that!

MR. BARTON: I think the lack of parking space does that adequately. What is required in so many cities is first a sound program, and then a method of financing that program.

MR. KENNEDY: And may I say if sufficient funds aren't available through the normal sources of revenue, that the public is going to find special means of financing, such as toll roads, to provide in this generation the roads which they need today, and for which otherwise they might have to wait another quarter of a century.

MR. FARIN: Might we not sum it up a good deal like one large industrial group has? We need more funds, and they need to be wisely spent.

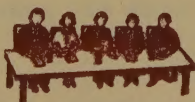
PAR

MR. BARKER: We must have a program under which the moneys can be spent wisely. Mr. Kennedy, you have mentioned the PAR group, Project Adequate Roads. I think that they are attempting to do exactly what we are attempting to do in Illinois.

MR. KENNEDY: That's right, Frank.

MR. BARKER: First, to classify the roads into appropriate groups to determine which are the roads and streets that should be supported entirely from motor user revenues and which should have a contribution from property taxes.

ANNOUNCER: I am sorry, gentlemen, but our time is up.



Suggested Reading



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and M. Helen Perkins, Reference Department,
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A primer on the "history, administration, finance, systems, standards, location, design, construction and maintenance" of highways.

U.S. Senate, 82nd Congress, 1st Session, Hearings Before a Subcommittee of the Committee on Public Works on S. 2025 and S. 1956. *Emergency Highway Repairs; Defense Access Highways.*

Statements and letters on U.S. highway needs.

American Highways 29:10-11, Jan., '50. "Maintenance of Horizontal and Vertical Traffic Controls in Kentucky." W. P. RINGO.

Describes the maintenance problems involved in caring for 11,121 miles of winding roads.

American Highways 29:9, Apr., '50. "Road Improvements Lag Behind Increasing Needs of U.S. Traffic." T. H. MacDONALD.

Statistics on the 1949 use of highways, rural roads and city streets, and on the federal aid program.

The American Historical Review 51:236-53, Jan., '46. "The Highway Movement, 1916-1935." F. L. PAXSON.

Traces the history of the three major spreads of communication from ocean to ocean in the United States.

Business Week p. 108, Dec. 8, '51. "Highways Run Losing Race with Traffic."

Specific reasons for our U.S. highway deficiency are given and remedies are suggested.

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"One-seventh of U.S. business lives off the highway and all U.S. business sells to that seventh!" This article gives the economics behind our U.S. highway system with prices of various types of roads per mile, as of 1948.

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"Extensive graph-type charts for highway capacity calculations."

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"A discussion, including statistics on rural roads."

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Saturday Evening Post 224:36-7, Dec. 8, '51. "How New Jersey Built Its Dream Road." R. THRUENSEN.

The amazing story of the dreaming, planning and engineering that built the New Jersey Turnpike, a toll road, across marshes and through cities in record time.

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The organization, functions, and accomplishments of the Michigan State Highway Department and its Planning and Traffic Division.

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What one city did to help overcome an antiquated street system.



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